

WO 2004/050693

SEQUENCE LISTING

<110> Imperial College Innovations Ltd

<120> Engineering Redox Proteins

<130> HMJ03488WO

<140>

<141>

<160> 11

<170> PatentIn Ver. 2.1

<210> 1

<211> 84

<212> DNA

<213> Escherichia coli

<220>

<221> CDS

<222> (1)..(84)

<223> Helix 1 of E.coli repressor of primer (rop)

<400> 1

acc aaa caa gaa aaa acc gcc ctt aac atg gcc cgc ttt atc aga agc 48
 Thr Lys Gln Glu Lys Thr Ala Leu Asn Met Ala Arg Phe Ile Arg Ser
 1 5 10 15

cag aca tta acg ctt ctg gag aaa ctc aac gag ctg 84
 Gln Thr Leu Thr Leu Leu Glu Lys Leu Asn Glu Leu
 20 25

<210> 2

<211> 28

<212> PRT

<213> Escherichia coli

<400> 2

Thr Lys Gln Glu Lys Thr Ala Leu Asn Met Ala Arg Phe Ile Arg Ser
 1 5 10 15

Gln Thr Leu Thr Leu Leu Glu Lys Leu Asn Glu Leu
 20 25

<210> 3
 <211> 84
 <212> DNA
 <213> Escherichia coli

<220>
 <221> CDS
 <222> (1)..(84)
 <223> Helix 2 of rop

<400> 3
 gat gaa cag gca gac atc tgt gaa tcg ctt cac gac cac gct gat gag 48
 Asp Glu Gln Ala Asp Ile Cys Glu Ser Leu His Asp His Ala Asp Glu
 1 5 10 15
 ctt tac cgc agc tgc ctt gcc cgt ttc ggc gac gac 84
 Leu Tyr Arg Ser Cys Leu Ala Arg Phe Gly Asp Asp
 20 25

<210> 4
 <211> 28
 <212> PRT
 <213> Escherichia coli

<400> 4
 Asp Glu Gln Ala Asp Ile Cys Glu Ser Leu His Asp His Ala Asp Glu
 1 5 10 15
 Leu Tyr Arg Ser Cys Leu Ala Arg Phe Gly Asp Asp
 20 25

<210> 5
 <211> 192
 <212> DNA
 <213> Escherichia coli

<220>
 <221> CDS
 <222> (1)..(192)
 <223> wild type dimeric rop

<400> 5
 atg ggt acc aaa caa gaa aaa acc gcc ctt aac atg gcc cgc ttt atc 48
 Met Gly Thr Lys Gln Glu Lys Thr Ala Leu Asn Met Ala Arg Phe Ile

1	5	10	15	
aga agc cag aca tta acg ctt ctg gag aaa ctc aac gag ctg gac gcg	96			
Arg Ser Gln Thr Leu Thr Leu Leu Glu Lys Leu Asn Glu Leu Asp Ala				
20	25	30		
gat gaa cag gca gac atc tgt gaa tcg ctt cac gac cac gct gat gag	144			
Asp Glu Gln Ala Asp Ile Cys Glu Ser Leu His Asp His Ala Asp Glu				
35	40	45		
ctt tac cgc agc tgc ctt gcc cgt ttc ggc gac gac ggt gaa aac ctg	192			
Leu Tyr Arg Ser Cys Leu Ala Arg Phe Gly Asp Asp Gly Glu Asn Leu				
50	55	60		

<210> 6
 <211> 64
 <212> PRT
 <213> Escherichia coli

<400> 6	
Met Gly Thr Lys Gln Glu Lys Thr Ala Leu Asn Met Ala Arg Phe Ile	
1	15
Arg Ser Gln Thr Leu Thr Leu Leu Glu Lys Leu Asn Glu Leu Asp Ala	
20	30
Asp Glu Gln Ala Asp Ile Cys Glu Ser Leu His Asp His Ala Asp Glu	
35	45
Leu Tyr Arg Ser Cys Leu Ala Arg Phe Gly Asp Asp Gly Glu Asn Leu	
50	60

<210> 7
 <211> 384
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Monomeric rop
 containing all 4 helices in one continuous
 sequence

<220>
 <221> CDS
 <222> (1) .. (384)

<223> Monomeric rop consisting of helices 1-1'-2'-2 and helices 1 and 1', and 2' and 2 are connected by GGGGG loops

<400> 7

```

atg ggt acc aaa caa gaa aaa acc gcc ctt aac atg gcc cgc ttt atc   48
Met Gly Thr Lys Gln Glu Lys Thr Ala Leu Asn Met Ala Arg Phe Ile
   1             5             10             15

aga agc cag aca tta acg ctt ctg gag aaa ctc aac gag ctg ggt ggc   96
Arg Ser Gln Thr Leu Thr Leu Leu Glu Lys Leu Asn Glu Leu Gly Gly
           20             25             30

ggt ggc ggt acc aaa caa gag aag acc gcc ctt aac atg gcc cgc ttt  144
Gly Gly Gly Thr Lys Gln Glu Lys Thr Ala Leu Asn Met Ala Arg Phe
       35             40             45

atc aga tct cag aca tta acg ctt cta gag aag ctt aac gag ctc ggg   192
Ile Arg Ser Gln Thr Leu Thr Leu Leu Glu Lys Leu Asn Glu Leu Gly
       50             55             60

gcg gat gaa cag gca gac ata tgt gaa tcg ctt cac gac cac gct gat   240
Ala Asp Glu Gln Ala Asp Ile Cys Glu Ser Leu His Asp His Ala Asp
   65             70             75             80

gag ctt tac cgc agc tgc ctt gcc cgt ttc ggt ggc ggt ggc ggt gcg   288
Glu Leu Tyr Arg Ser Cys Leu Ala Arg Phe Gly Gly Gly Gly Gly Ala
           85             90             95

gat gaa cag gca gac atc tgt gaa tcg ctt cac gac cac gct gat gag   336
Asp Glu Gln Ala Asp Ile Cys Glu Ser Leu His Asp His Ala Asp Glu
       100             105             110

ctt tac cgc agc tgc ctt gcc cgt ttc ggc gac gac ggt gaa aac ctg   384
Leu Tyr Arg Ser Cys Leu Ala Arg Phe Gly Asp Asp Gly Glu Asn Leu
       115             120             125

```

<210> 8

<211> 128

<212> PRT

<213> Artificial Sequence

<223> Description of Artificial Sequence: Monomeric rop containing all 4 helices in one continuous sequence

<400> 8

Met Gly Thr Lys Gln Glu Lys Thr Ala Leu Asn Met Ala Arg Phe Ile

1	5	10	15
Arg Ser Gln Thr Leu Thr Leu Leu Glu Lys Leu Asn Glu Leu Gly Gly	20	25	30
Gly Gly Gly Thr Lys Gln Glu Lys Thr Ala Leu Asn Met Ala Arg Phe	35	40	45
Ile Arg Ser Gln Thr Leu Thr Leu Leu Glu Lys Leu Asn Glu Leu Gly	50	55	60
Ala Asp Glu Gln Ala Asp Ile Cys Glu Ser Leu His Asp His Ala Asp	65	70	75
Glu Leu Tyr Arg Ser Cys Leu Ala Arg Phe Gly Gly Gly Gly Gly Ala	85	90	95
Asp Glu Gln Ala Asp Ile Cys Glu Ser Leu His Asp His Ala Asp Glu	100	105	110
Leu Tyr Arg Ser Cys Leu Ala Arg Phe Gly Asp Asp Gly Glu Asn Leu	115	120	125

<210> 9
 <211> 19
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: psp7 upstream
 amplification sequence

<400> 9
 gcgaaattaa tacgactca

19

<210> 10
 <211> 23
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: asp4
 downstream amplification sequence

<400> 10

gttggctgct gccaccgctg agc

23

<210> 11

<211> 128

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: RDM14.5

<400> 11

Met Gly Thr Lys Gln Glu Lys Thr Ala Leu Asn Met Ala Arg Phe Ile
1 5 10 15

Arg Ser Gln Thr Leu Thr Leu Leu Glu Lys Leu Asn Glu Leu Gly Gly
20 25 30

Gly Gly Gly Thr Lys Gln Glu Lys Thr Ala Leu Asn Met Ala Arg Phe
35 40 45

Ile Arg Ser Gln Thr Leu Thr His Leu Glu Lys Leu Asn Glu Leu Gly
50 55 60

Ala Asp Glu Gln Ala Asp Ile Cys Glu Ser Leu Ala Asp Trp Ala Asp
65 70 75 80

Glu Leu Tyr Arg Ser Cys Leu Ala Arg Phe Gly Gly Gly Gly Gly Ala
85 90 95

Asp Glu Gln Ala Asp Ile Cys Glu Ser Leu Ala Asp Trp Ala Asp Glu
100 105 110

His Tyr Arg Ser Cys Leu Ala Arg Phe Gly Asp Asp Gly Glu Asn Leu
115 120 125